



Antron Electronics Co.,LTD  
安雄電子股份有限公司

# Self-Diagnostic Emergency LED Driver



**Model Name** SDEMAP30-255

**Output Mode** Constant Power

**Input Voltage** 120-277 Vac

**Input Frequency** 50/60 Hz

**Dimming** N/A

**Surge Rating** 3KV

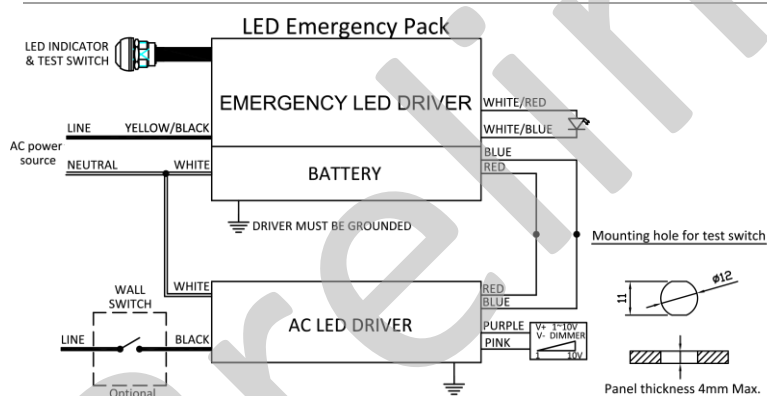
**Warranty** 5 Years TC  $\leq 60^{\circ}\text{C}$   
3 Years TC  $\leq 70^{\circ}\text{C}$

## Product Specification



| Output Power (W) | Output Voltage (V) | Output Current (mA) | Operating Duration Time | Operating Temp. ( $^{\circ}\text{C}$ ) | Battery Voltage (V) | Battery Charge Current (mA) | Battery Recharge Time | Input Power (W) | Input Current (mA) |
|------------------|--------------------|---------------------|-------------------------|----------------------------------------|---------------------|-----------------------------|-----------------------|-----------------|--------------------|
| Typ. 30          | 50-255             | 600-118             | Min. 90min              | 0-55                                   | 25.6                | 350                         | Min. 24Hrs            | Max. 11         | Max. 130           |

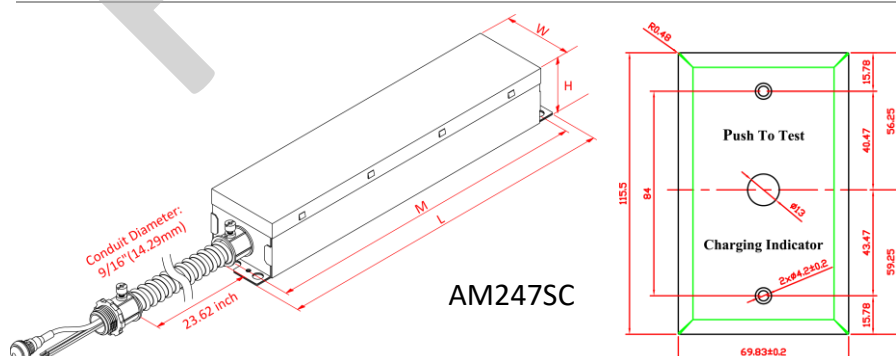
## Wire Diagram



Maximum Wiring Distance (at full load) is 18AWG/18Feet

| Lead Length   | Inch | Cm   |
|---------------|------|------|
| White         | 30.7 | 78   |
| Yellow/Black  | 30.7 | 78   |
| White/Red     | 30.7 | 78   |
| White/Blue    | 30.7 | 78   |
| Red           | 30.7 | 78   |
| Blue          | 30.7 | 78   |
| Test Switch   | 25   | 63.5 |
| LED Indicator | 6    | 15.2 |

## Enclosure



| Enclosure   | Inch | Cm   |
|-------------|------|------|
| Length(L)   | 12.6 | 32   |
| Width(W)    | 2.24 | 5.7  |
| Height(H)   | 2.05 | 5.2  |
| Mounting(M) | 12   | 30.5 |

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| Input Wiring             |                          |        |
|--------------------------|--------------------------|--------|
| Standard                 | Isolated Pass Relay      | Others |
| <input type="checkbox"/> | <input type="checkbox"/> |        |

| Power Activate               |                             |
|------------------------------|-----------------------------|
| Yes <input type="checkbox"/> | No <input type="checkbox"/> |

| Output Lead Type         |                          |                          |        |
|--------------------------|--------------------------|--------------------------|--------|
| Standard                 | Single Conduit           | Dual Conduits            | Others |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |        |

| Test Switch |                                                                                     |                                                                                     |                                                                                      |                                                                                       |
|-------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|
| Type        | White & Translucent                                                                 | PVC Wire                                                                            | Fire-Resistant Wire                                                                  | R-Mount                                                                               |
| Image       |  |  |  |  |
|             | <input type="checkbox"/><br>Bi-Color<br>Green & Red                                 | <input type="checkbox"/>                                                            | <input type="checkbox"/>                                                             | <input type="checkbox"/>                                                              |
| Type        | Customization                                                                       |                                                                                     |                                                                                      |                                                                                       |
| Remark      |                                                                                     |                                                                                     |                                                                                      |                                                                                       |

| Panel |                                                                                     |                                                                                     |                          |        |
|-------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|--------------------------|--------|
| Type  | White                                                                               | Metal                                                                               | No Need                  | Others |
| Image |  |  |                          |        |
|       | <input type="checkbox"/>                                                            | <input type="checkbox"/>                                                            | <input type="checkbox"/> |        |



## Power Activate Function

The Power Activate function is created to eliminate the physical battery connector. Traditionally, manufacturer will need to disconnect the physical battery connector to avoid any unwanted energy lose. Now, with the Power Activate function, manufacturer can set the emergency unit to “Sleep Mode” as the last step of assembly process. Once the overall installation is finished on the job site, the emergency unit will automatically activate by AC power, then go to charge mode.

## Self-Diagnostic and Self-Testing Function

The emergency driver with self-diagnostic function is designed to automatically operate a 30 seconds short-term test each month, and a 90 minutes duration test every 12 months. The emergency unit will perform the condition via bi-color LED indicator, please refer to the self-diagnostic code table as below:

**Self-Diagnostic Code Table**

| EMB Status     | LED Indication           | Condition                | Failure Priority |
|----------------|--------------------------|--------------------------|------------------|
| Normal Mode    | <b>Steady GREEN</b>      | Battery is Fully Charged | N/A              |
|                | <b>Flash GREEN</b>       | Battery is Charging      | N/A              |
| Emergency Mode | <b>One RED Flash</b>     | Charging Failure         | 1                |
|                | <b>Two RED Flashes</b>   | Battery Failure          | 2                |
|                | <b>Three RED Flashes</b> | Load Failure             | 3                |

Note:

1. The failure code occurs every 10 seconds. Only highest priority failure is indicated.
2. One Red flash: Battery fail to fully charge in 24 hours.
3. Two Red flash: Battery complete dead or bad battery connection.

## Manual Testing

Manual testing can be performed by pressing the test switch. The failure code will be the same as Self-Diagnostic Code Table above. Please follow the Manual Test Sequence Table in blow:

**Manual Test Sequence Table**

| EMB Status     | Manual Test Item      | Test Switch Operation |
|----------------|-----------------------|-----------------------|
| Normal Mode    | Quick Test            | Press and Hold        |
|                | 30-Second Test        | 2 x Press and Release |
|                | 90-Minute Test        | 3 x Press and Release |
|                | Cancel 90-Minute Test | 1 x Press and Release |
| Emergency Mode | Sleep Mode            | Press and Hold        |



## Input Specifications

| Parameter       | Min. | Typ.     | Max.  | Notes                        |
|-----------------|------|----------|-------|------------------------------|
| Input Voltage   | 108V | 120/277V | 305V  |                              |
| Input Current   | -    | -        | 0.13A | @120Vac input with full load |
| Input Frequency | 47Hz | 60Hz     | 63Hz  |                              |
| Leakage Current | -    | -        | 0.7mA | @277Vac input                |
| Turn On Time    | -    | -        | 1.0s  | @120Vac input at full load   |
| Hold Up Time    | -    | -        | 0.1s  | @Nominal input and full load |
| Efficiency      | 83%  | 84%      | 85%   | @255Vdc output at full load  |
| Standby Power   | -    | -        | 11W   |                              |

## Output Specifications

| Parameter              | Min.  | Typ.  | Max.  | Notes                   |
|------------------------|-------|-------|-------|-------------------------|
| Output Voltage         | 50V   | -     | 255V  |                         |
| Output Current         | 118mA | -     | 600mA | @255Vdc-@50Vdc          |
| Battery Charge Current | 250mA | 350mA | 400mA | LiFePO4, 25.6V, 3000mAh |
| Battery Voltage        | -     | 25.6V | -     |                         |
| Battery Recharge Time  | -     | -     | 24Hrs |                         |
| Emergency Operation    | 90min | -     | -     |                         |
| No-Load Output Voltage | 260V  | 265V  | 275V  |                         |
| Rated Current          | 118mA | -     | 600mA |                         |
| Rated Power            | -     | 30W   | -     |                         |
| Output Current Ripple  | -     | ±10%  | -     |                         |

## General Specifications

| Parameter     | Min.            | Typ.             | Max. | Notes                                                                                                      |
|---------------|-----------------|------------------|------|------------------------------------------------------------------------------------------------------------|
| MTBF          | -               | 100,000<br>Hours | -    | @25°C ambient temperature                                                                                  |
| Lifespan Time | 75,000<br>Hours | -                | -    | In the range of specification required<br>by normal use of the power supply<br>at ambient temperature 55°C |
| Cold Start    | -               | -                | 2.0s | @0°C                                                                                                       |



## Protection

| Parameter        | Description                                                                         |
|------------------|-------------------------------------------------------------------------------------|
| Over Voltage     | Output current decay mode, recovers automatically after fault condition is removed. |
| Short Circuit    | Hiccup mode, recovers automatically after fault condition is removed.               |
| Over Temperature | Shut down o/p voltage, re-power on to recover.                                      |

## Environmental Specifications

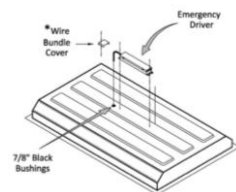
| Parameter             | Min.  | Typ. | Max. | Notes |
|-----------------------|-------|------|------|-------|
| Operation Temperature | 0°C   | -    | 55°C |       |
| Storage Temperature   | -20°C | -    | 55°C |       |
| Humidity              | 10%   | -    | 90%  |       |
| T-Case Temperature    | -     | -    | 70°C |       |

## Safety and EMC Compliance

| Safety Standards               | Withstand Voltage                                         | Isolation Resistance                             | EMC Standards       |                     |
|--------------------------------|-----------------------------------------------------------|--------------------------------------------------|---------------------|---------------------|
| UL 924<br>CSA C22.2 NO. 141-15 | I/P-O/P: 2.0K Vac<br>I/P-FG: 2.0K Vac<br>O/P-FG: 0.5K Vac | I/P-O/P:<br>I/P-FG:<br>O/P-FG:<br>100Mohm/500VDC | EMI                 | EMS                 |
|                                |                                                           |                                                  | FCC Part 15 class A | FCC Part 15 class A |

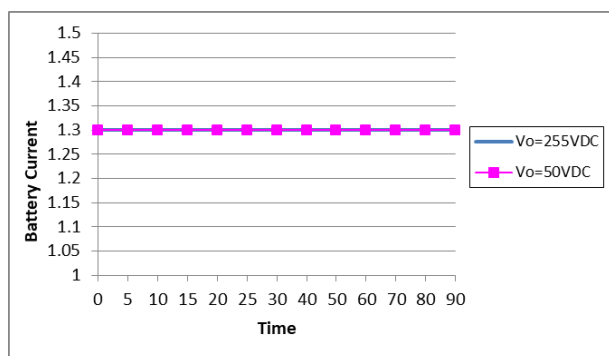
## Note

- The emergency backup driver shall be installed inside an electrical enclosure. If the application requires the emergency pack to be mounted on top of the luminaire, please use model which provides a metal flexible conduit instead of bare wires.

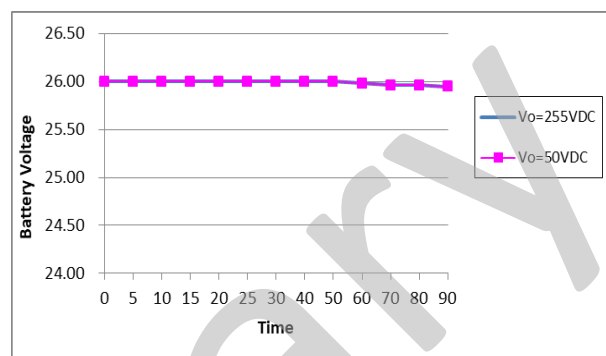




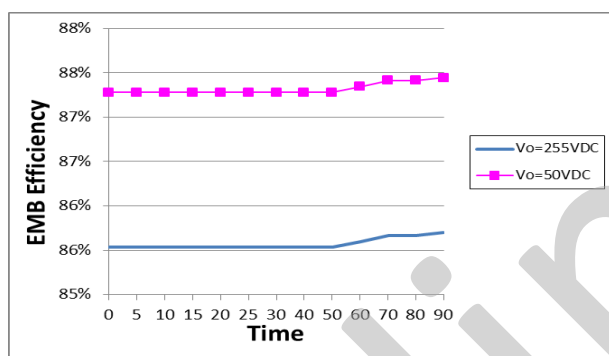
## Battery Current V.S. Time



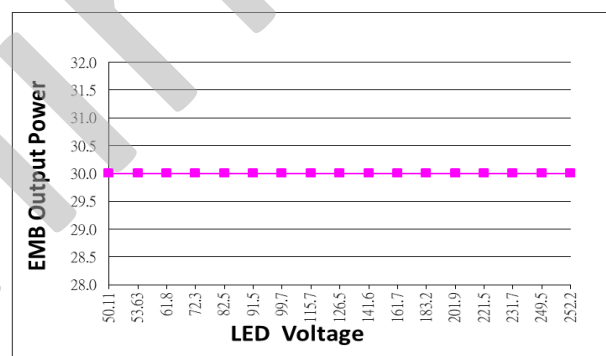
## Battery Voltage V.S. Time



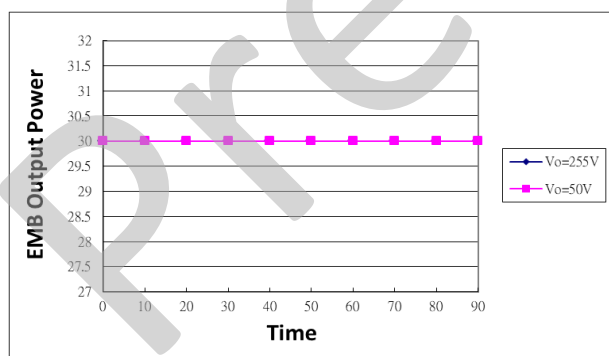
## EMB Efficiency V.S. Time



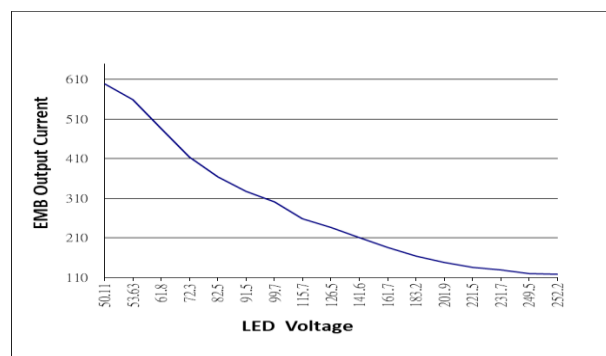
## EMB Output Power V.S. LED Voltage



## EMB Output Power V.S. Time



## EMB Output Current V.S. LED Voltage



Data is based upon tests performed by Antron Electronics in a controlled environment and representative performance. Actual performance can vary depending on operating conditions. Specifications are subject to change without notice. All specifications are nominal unless otherwise noted.



## Revision History

| Change date | Description of Change |                               |              |
|-------------|-----------------------|-------------------------------|--------------|
|             | Item                  | From                          | To           |
| 2025/12/23  | Model name            | SDLEDS30-50255-25.6CHPNBO-FTS | SDEMAP30-255 |